Figure 1

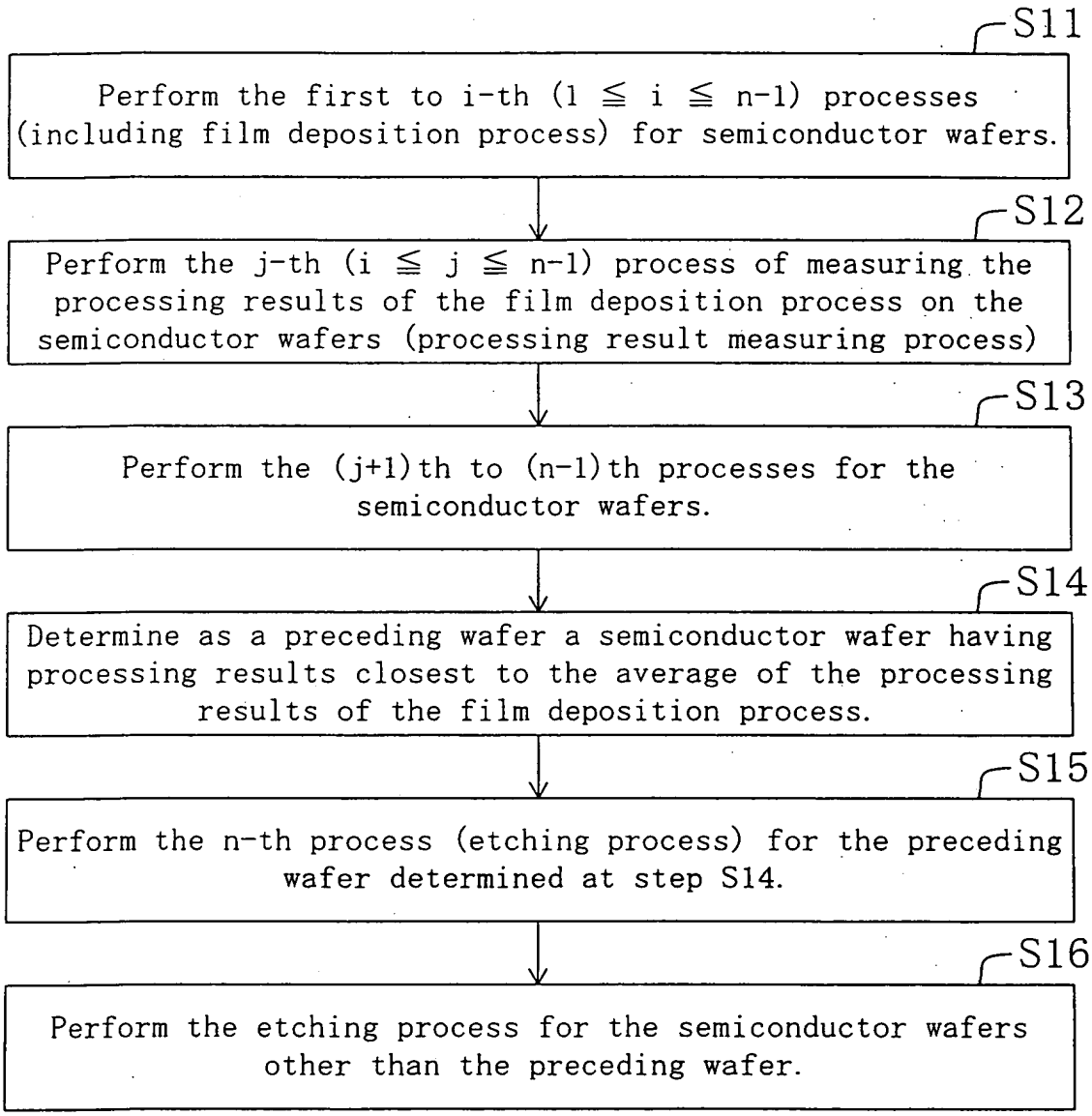
S11
Perform the first to i-th (1 ≦ i ≦ n-1) processes (including film deposition process) for semiconductor wafers.
S12
Perform the j-th (i ≦ j ≦ n-1) process of measuring the processing results of the film deposition process on the semiconductor wafers (processing result measuring process)
S13
Perform the (j+1)th to (n-1)th processes for the semiconductor wafers.
S14
Determine as a preceding wafer a semiconductor wafer having processing results closest to the average of the processing results of the film deposition process.
S15
Perform the n-th process (etching process) for the preceding wafer determined at step S14.
S16
Perform the etching process for the semiconductor wafers other than the preceding wafer.

Figure 2(a)

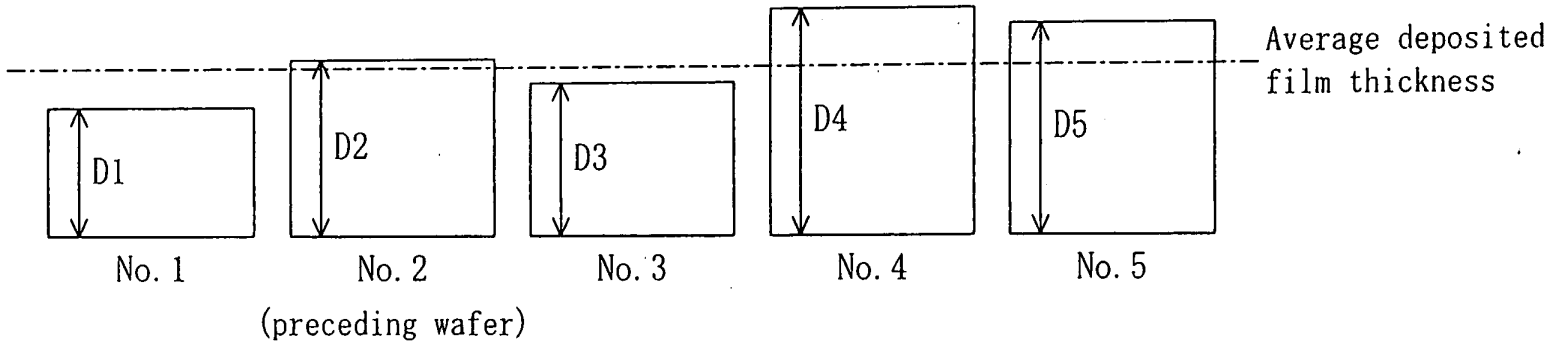

Figure 2(b)

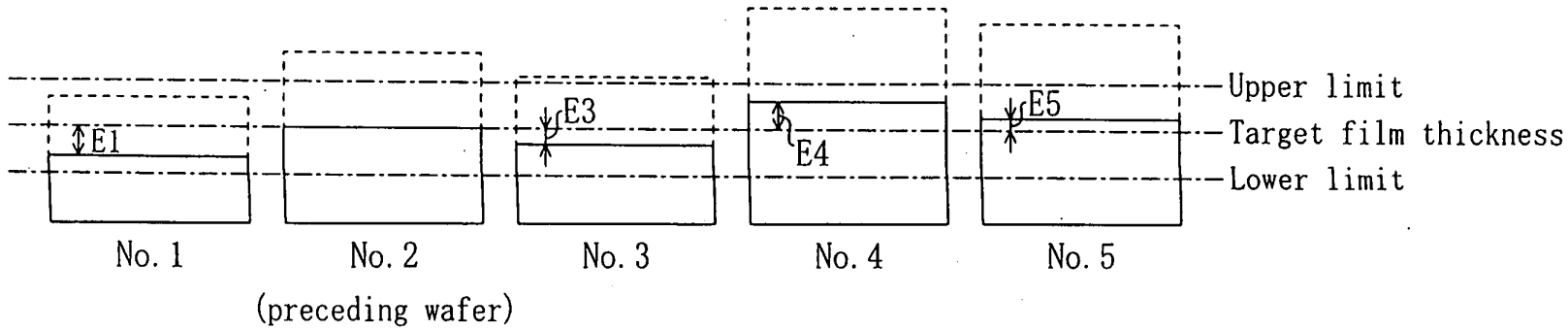

Figure 3

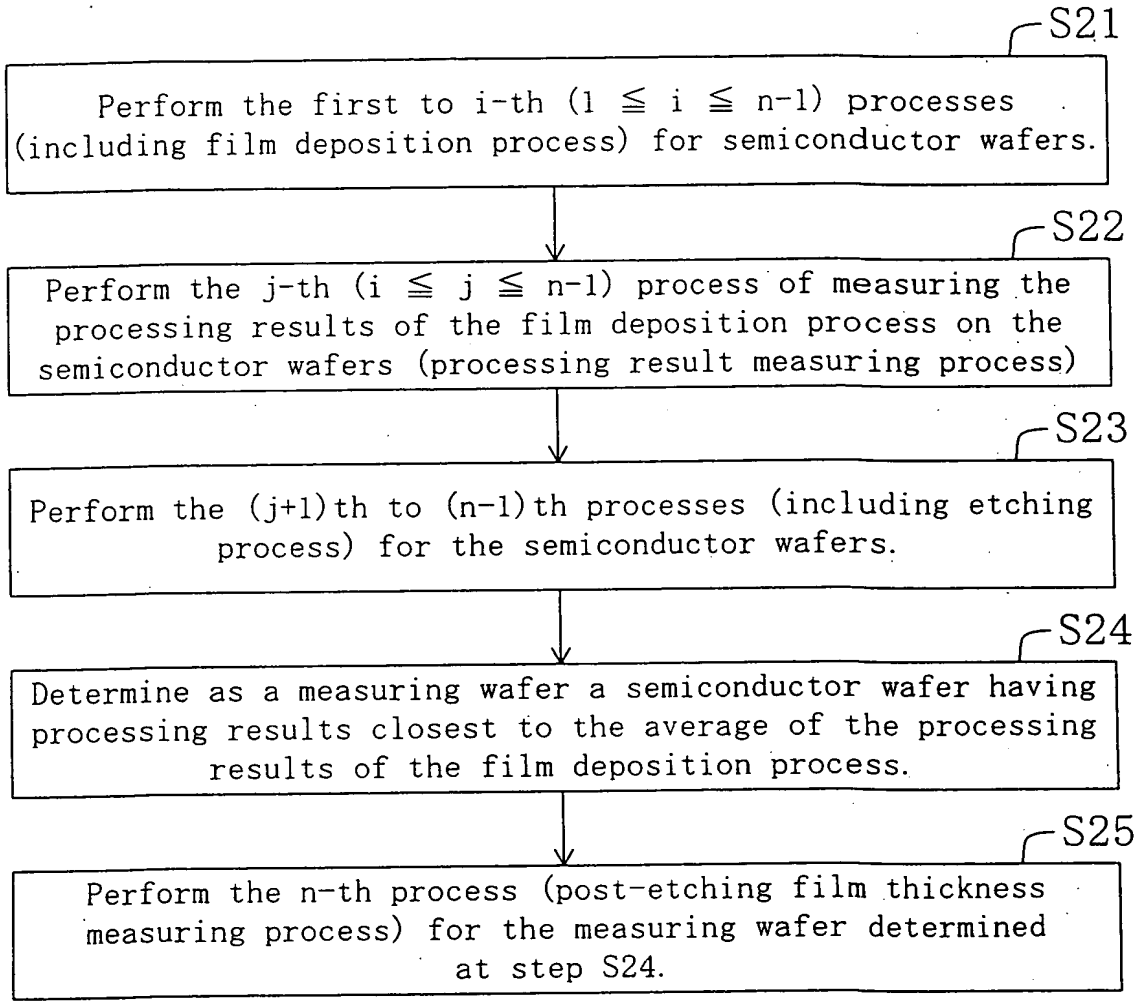
S21
Perform the first to i-th (1 ≦ i ≦ n-1) processes (including film deposition process) for semiconductor wafers.
S22
Perform the j-th (i ≦ j ≦ n-1) process of measuring the processing results of the film deposition process on the semiconductor wafers (processing result measuring process)
S23
Perform the (j+1)th to (n-1)th processes (including etching process) for the semiconductor wafers.
S24
Determine as a measuring wafer a semiconductor wafer having processing results closest to the average of the processing results of the film deposition process.
S25
Perform the n-th process (post-etching film thickness measuring process) for the measuring wafer determined at step S24.

Figure 4(a)

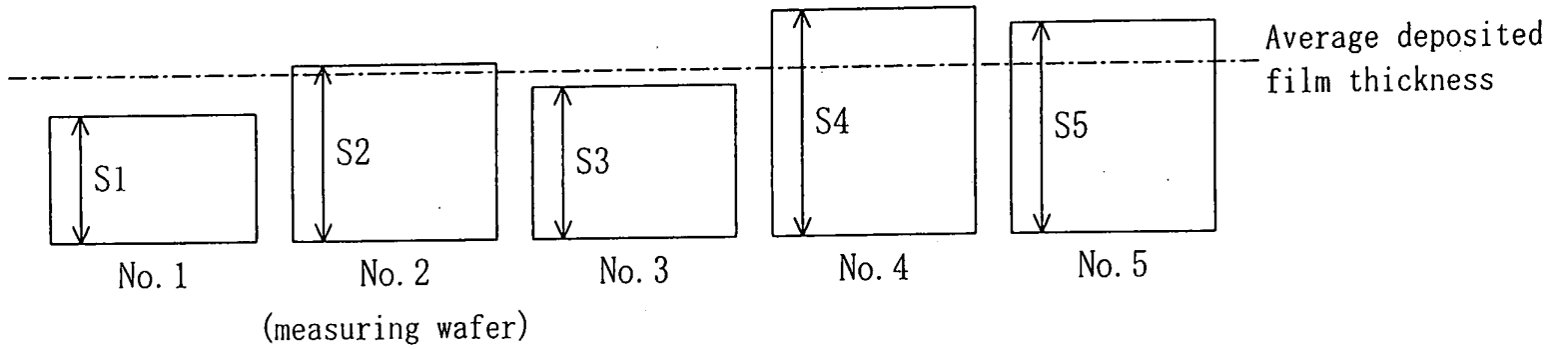

Figure 4(b)

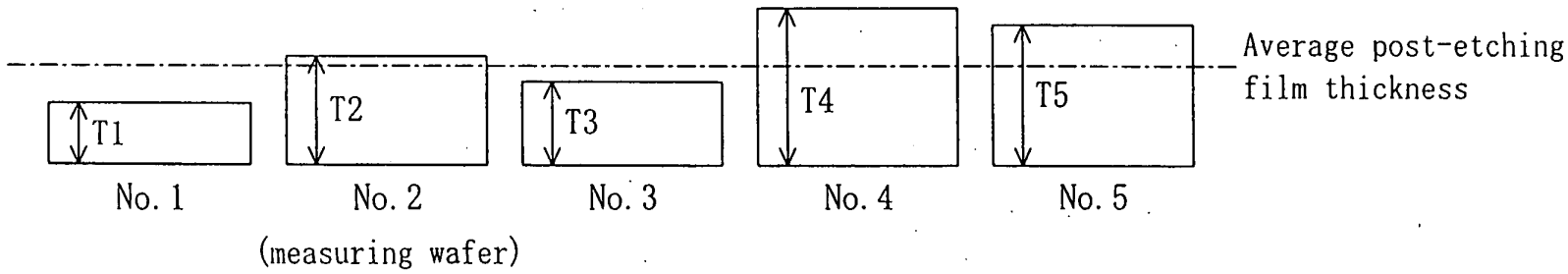

Figure 5

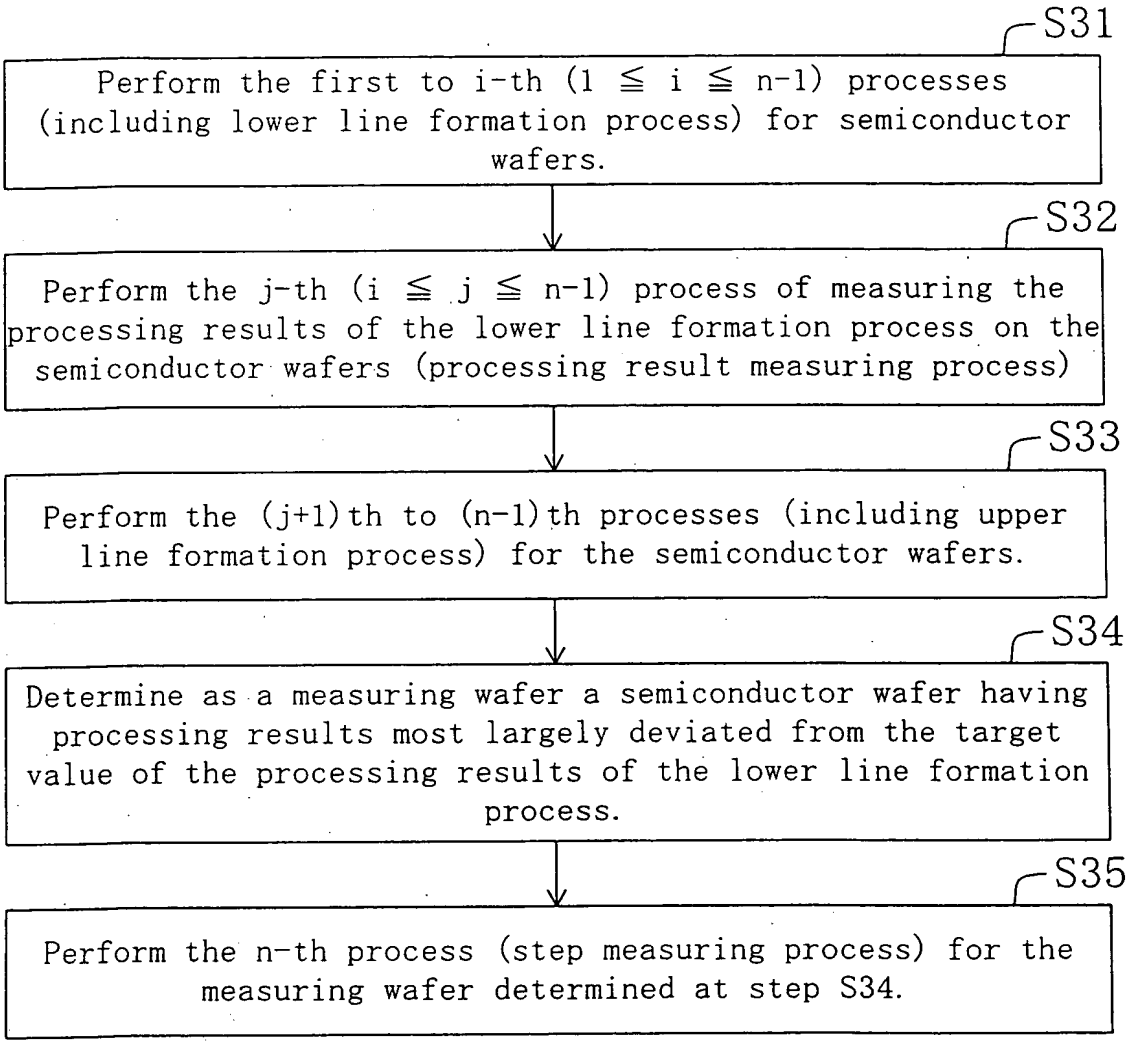
S31
Perform the first to i-th (1 ≦ i ≦ n-1) processes (including lower line formation process) for semiconductor wafers.
S32
Perform the j-th (i ≦ j ≦ n-1) process of measuring the processing results of the lower line formation process on the semiconductor wafers (processing result measuring process)
S33
Perform the (j+1)th to (n-1)th processes (including upper line formation process) for the semiconductor wafers.
S34
Determine as a measuring wafer a semiconductor wafer having processing results most largely deviated from the target value of the processing results of the lower line formation process.
S35
Perform the n-th process (step measuring process) for the measuring wafer determined at step S34.

Figure 6(a)

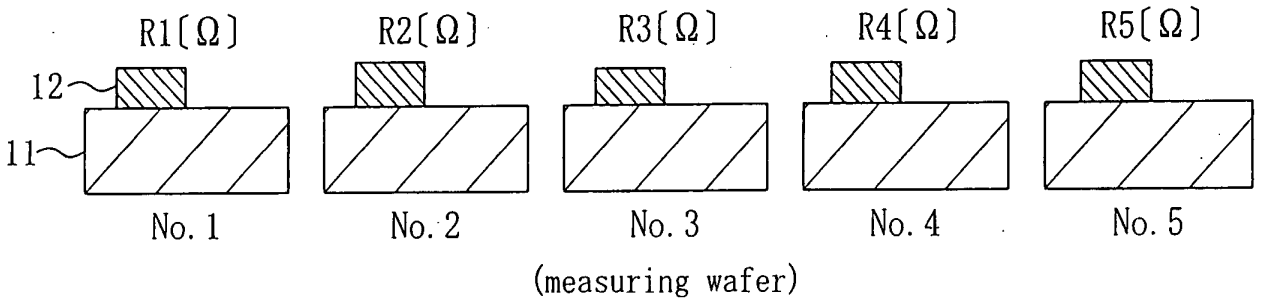

Figure 6(b)

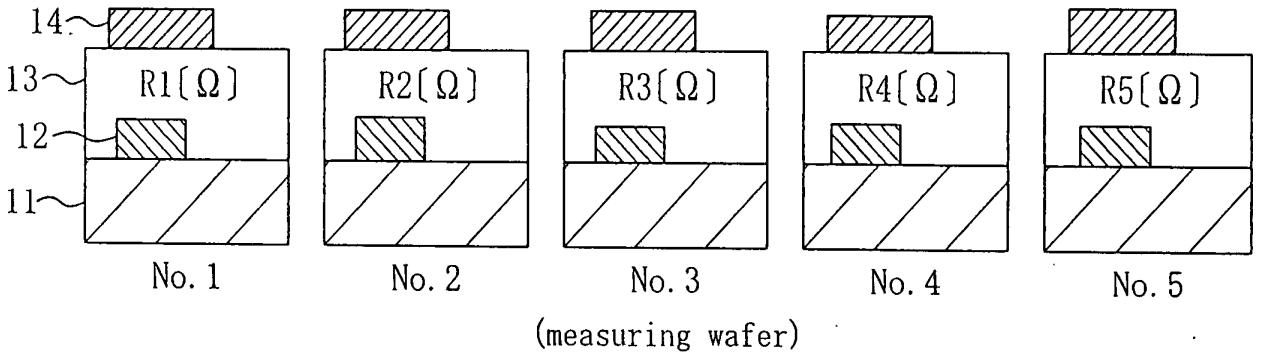

Figure 7

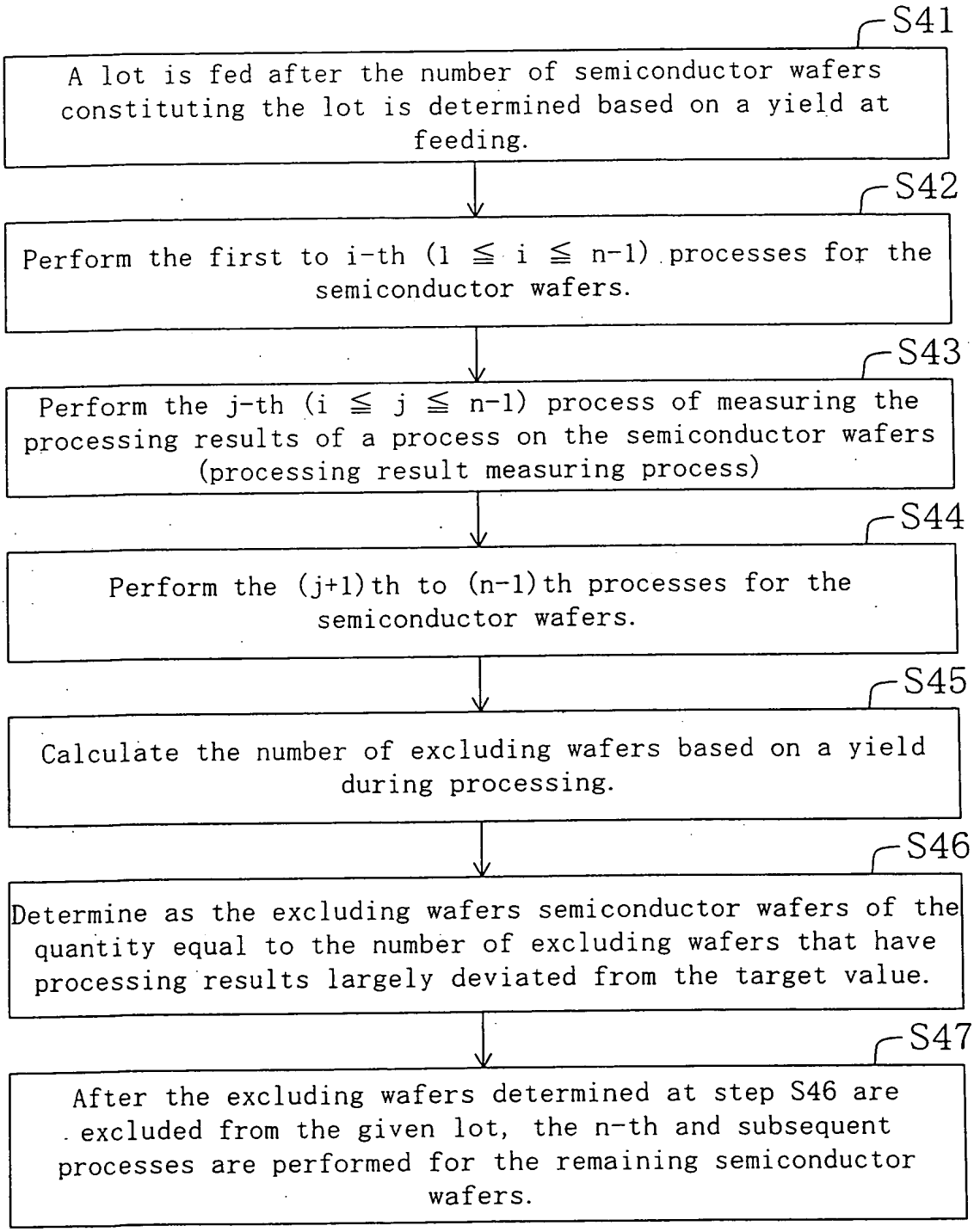
S41
A lot is fed after the number of semiconductor wafers constituting the lot is determined based on a yield at feeding.
S42
Perform the first to i-th (1 ≦ i ≦ n-1) processes for the semiconductor wafers.
S43
Perform the j-th (i ≦ j ≦ n-1) process of measuring the processing results of a process on the semiconductor wafers (processing result measuring process)
S44
Perform the (j+1)th to (n-1)th processes for the semiconductor wafers.
S45
Calculate the number of excluding wafers based on a yield during processing.
S46
Determine as the excluding wafers semiconductor wafers of the quantity equal to the number of excluding wafers that have processing results largely deviated from the target value.
S47
After the excluding wafers determined at step S46 are excluded from the given lot, the n-th and subsequent processes are performed for the remaining semiconductor wafers.

Figure 8

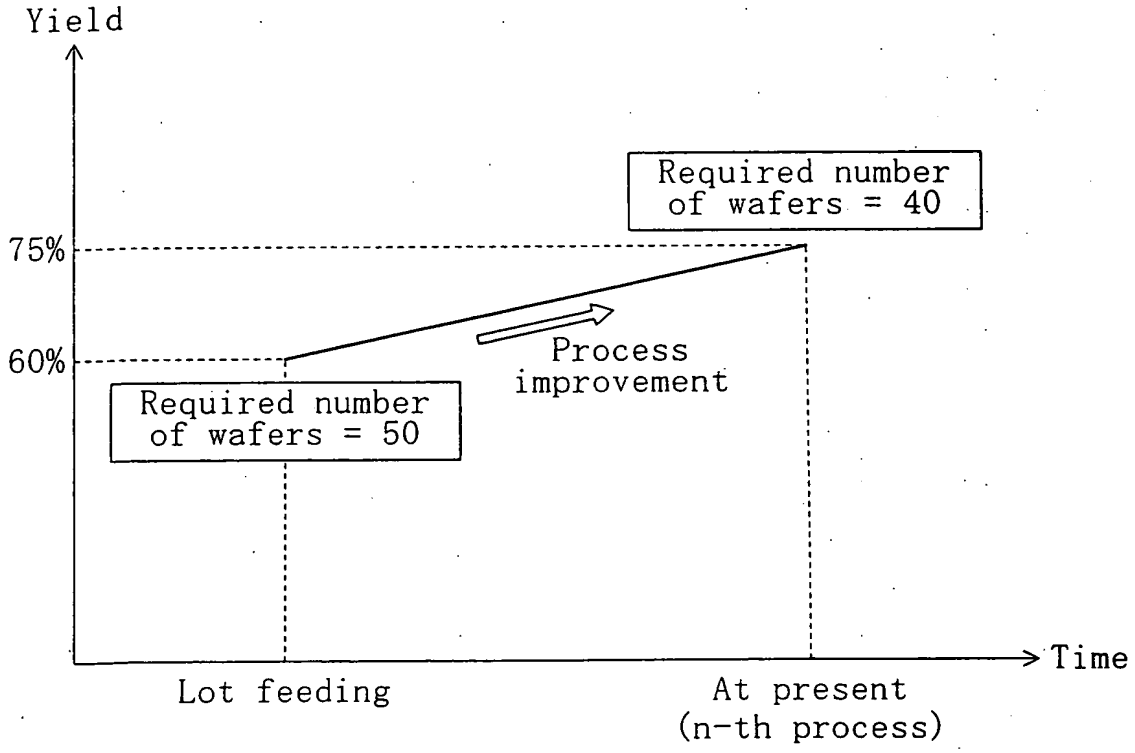
Yield
Required number of wafers = 40
75%
60%
Process improvement
Required number of wafers = 50
Time
Lot feeding
At present (n-th process)

Figure 9(a)
Prior Art

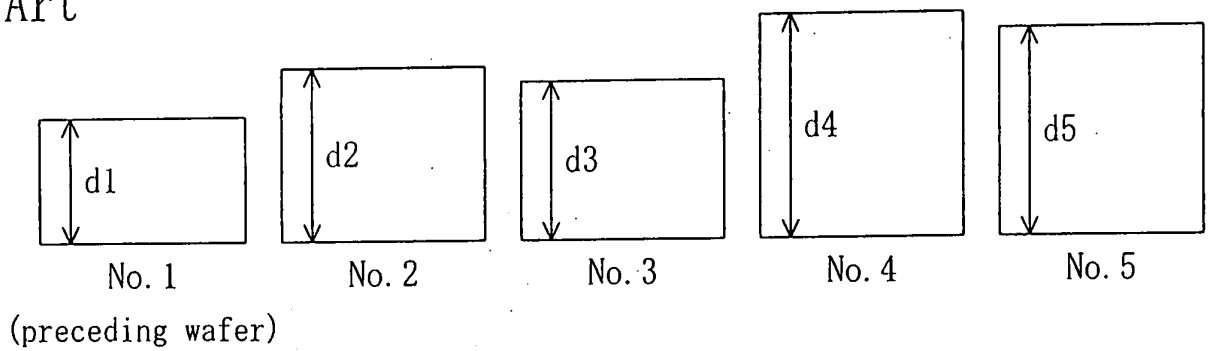

Figure 9(b)
Prior Art

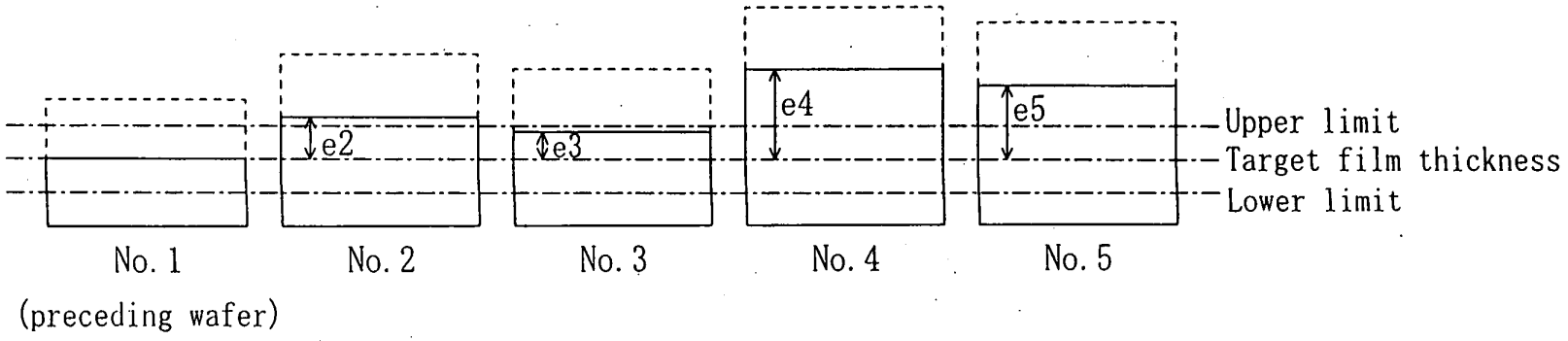

Figure 10(a)

Prior Art

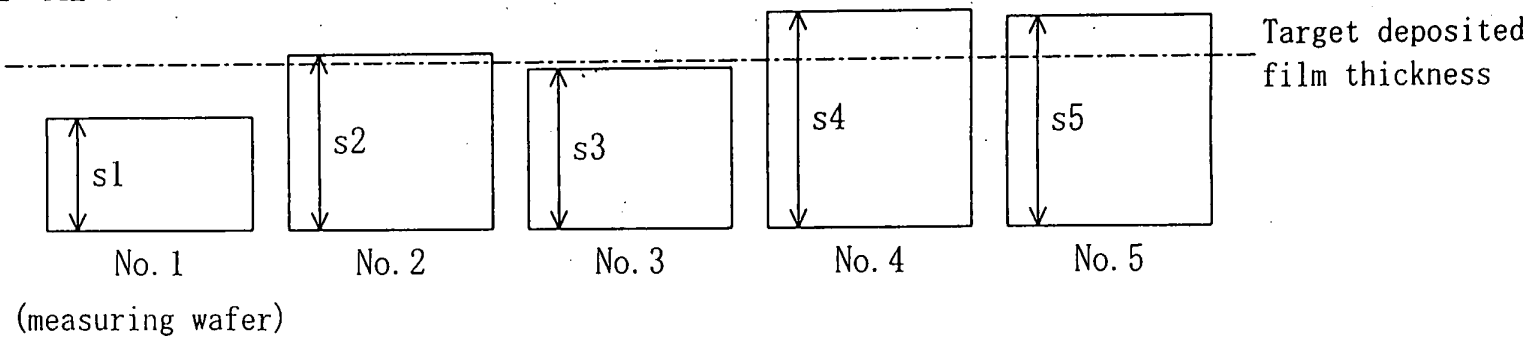

Figure 10(b)

'rior Art

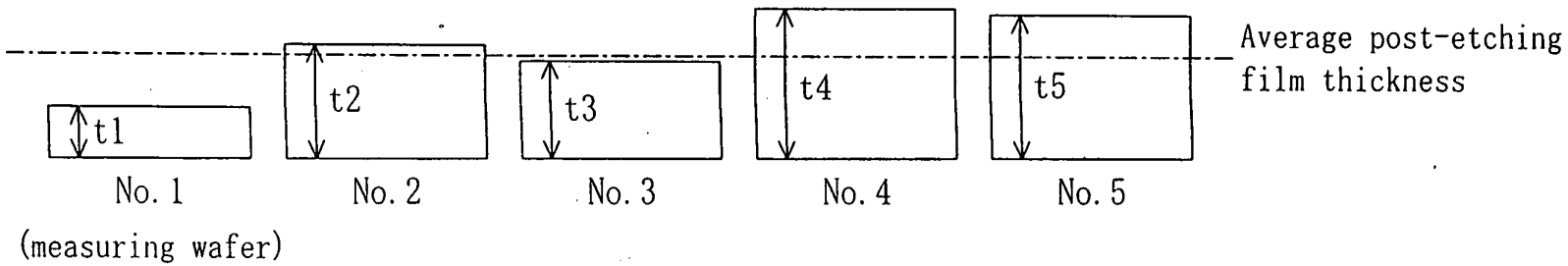

Figure 11(a)
Prior Art

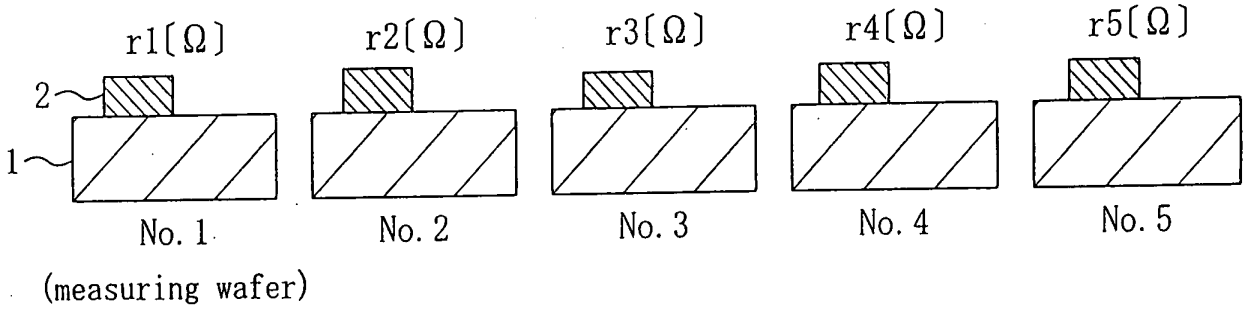
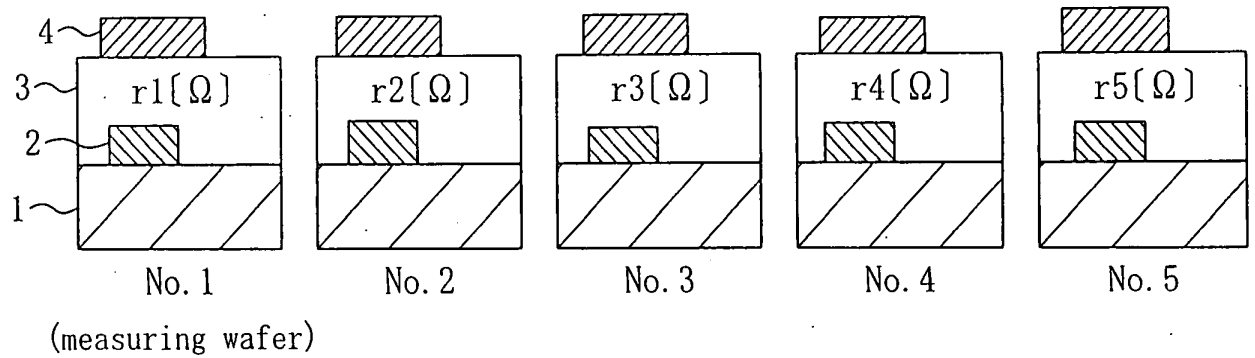
Figure 11(b)
Prior Art